STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909

RONALD O. SKOOG, Director

December 9, 1983

Mr. Thomas P. Sullivan, President
Chem-Met Services, Inc.
18550 Allen Road
Wyandotte, Michigan 48192

Re: Notice of Hearing

Dear Mr. Sullivan:

Attached is a notice of an informal hearing to give you the opportunity to demonstrate compliance with your Hazardous Waste Disposal license, 1979 PA 64, as amended, and the rules promulgated thereunder.

Section 43, 1979 PA 64 and General Condition 1.A., Part I, page 2 of your operating license authorize the Department to issue an order requiring the licensee to comply with their license, a requirement of 1979 PA 64 or a rule promulgated thereunder if the Department finds that the licensee is in violation of their license, a requirement of 1979 PA 64 or a rule promulgated thereunder.

General Condition 6, Part I, page 3 of your operating license requires that you must operate your facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to the air, soil and surface water which could threaten human health and the environment.

On November 7, 1983, staff of the Department of Natural Resources observed the off-loading of liquid wastes into depressions in the waste pile. Sampling and analysis to determine the compatibility of these wastes was not completed prior to off-loading.

Due to the potential incompatibility of wastes received at Chem-Met Services, Inc., I find that this action constitutes a violation of General Condition 6, Part I of your operating license because you have not minimized the possibility of a fire, explosion or release which could threaten human health or the environment.

You are hereby ordered to cease and desist this activity until you have demonstrated to the Department that corrective action has been taken to ensure compliance with General Condition 6. This demonstration shall be provided to the Department in writing by December 16, 1983.

If you have any questions regarding this letter or the attached notice, please contact Mr. Delbert Rector of the Hazardous Waste Division at (517) 373-2730 or Mr. John Shauver of the Environmental Enforcement Division at (517) 373-3503.

Sincerely,

Ronald O. Skoog
Director
517-373-2329

Enclosure
cc: D. Rector
J. Bails
J. Bohunsky
A. Howard

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
HAZARDOUS WASTE DIVISION
ENVIRONMENTAL ENFORCEMENT DIVISION

In the Matter of:

Administrative Proceedings against Chem-Met Services, Inc., a Michigan Corporation, for violations of their Hazardous Waste Disposal license and the Hazardous Waste Management Act in and around the City of Wyandotte, County of Wayne, State of Michigan

NOTICE OF INFORMAL HEARING

TO: Mr. Thomas P. Sullivan, President
Chem-Met Services, Inc.
18550 Allen Road
Wyandotte, Michigan

PLEASE TAKE NOTICE that staff of the Michigan Department of Natural Resources has reason to believe that Chem-Met Services has violated the terms and conditions of their 1979 PA 64 Hazardous Waste Disposal license issued on June 8, 1982 and 1979 PA 64.

Specifically:

I General

A. On June 8, 1982 the Director of the Department of Natural Resources issued a Hazardous Waste Disposal Facility Operating License to Chem-Met Services, Inc., 18550 Allen Road, Wyandotte, Michigan, authorizing operation of that Hazardous Waste Treatment Facility.

B. The Hazardous Waste Disposal Facility Operating License issued to Chem-Met Services, Inc. includes 31 pages and supplemental materials, appendices and addenda described and identified on page 1, paragraph 3 of the license.

C. General Conditions of the license, Part 1, page 2, state that Chem-Met Services Inc. shall comply with all license conditions.

D. Section 48(1) of 1979 P.A. 64, as amended, gives the Director authority to issue an order requiring a person who is in violation of a permit, license, rule promulgated under the act or requirement of the act to comply with the permit, license, rule or requirements of the act.

II Removal of Waste from Auxiliary Storage Area

A. Specific Condition 17 of the license, Part II, page 25 requires that "The licensee shall remove all Chem-Pac waste stored in the auxiliary storage area located north of the licensed area identified in item 1 of this part by October 30, 1983."

B. DNR staff inspection on November 7, 1983 shows that the Chem-Pac waste in the auxiliary storage area has not been removed.

C. The approved closure plan for the facility which is included by reference as a part of Chem-Met's operating license anticipated company compliance with Condition 17. As a result, the current closure plan and closure financial assurance instruments are inadequate because they do not include either the method or cost of removal of the waste in this storage area, or the sampling and analysis required to ensure that all of the Chem-Pac waste and underlying contaminated soil have been removed.

III Air Monitoring Program Deficiencies

A. MAC R299.6404(b) states that all disposal facilities shall be located, designed, constructed, and operated in a manner that will prevent air emissions in violation of the federal clean air act or Act 348.

B. Specific condition 5 of the license, Part II, page 13, requires that operation of the facility shall not:

1. Result in significant deterioration of air quality,

2. Interfere with the attainment or maintenance of air quality standards (R336.1208, 1965 P.A. 348), or

3. Result in the emission of an air contaminant which causes injurious effects, or causes unreasonable interference with the comfortable enjoyment of life and property (R336.1901, 1965 PA 348.

C. MAC R299.6409(2)(e) requires that the owner/operator shall conduct an ambient air monitoring program to detect contamination originating from the facility.

D. General condition 16A of the license, Part I, page 7 requires that "all samples and measurements taken for the purpose of monitoring must be representative of the monitored activity".

E. MAC R299.6409(5) authorizes the department to require more intensive or extensive monitoring programs if needed to demonstrate compliance.

F. DNR staff inspection on May 27, 1983 showed that the present air monitoring program is inadequate because:

1. The downwind monitor is too close to the source and too far from the property line to properly indicate ambient air quality at the property line; and,

2. The frequency of sampling is not sufficient to be representative.

G. As a result, the present air monitoring system does not comply with MAC R299.6409(1)(b), which requires that monitoring systems be installed to detect release of hazardous waste or hazardous waste components.

H. Specific Condition 15, Part II, page 23 of the facilities operating license sets forth a compliance schedule for ambient air monitoring and odor control. It includes requirements to:

1. Submit a plan of study to identify sources and to quantify odor intensity and frequency of recurrence by July 31, 1982,

2. Implement the approved study by August 1, 1982 and complete it by January 31, 1983, and

3. Submit a detailed report of the study by April 1, 1983.

I. To date, Chem-Met Services has not complied with the requirements of Specific Condition 15.

IV Reporting of Noncompliance

A. General Condition 29 of the license, Part I, page 11 requires that the licensee immediately report any dust or odor complaint to the Department and follow up this oral report with a full written explanation to the Director within 15 days from the date the complaint was received. This written explanation must include the cause and discovery of the incident, mitigative measures taken, preventative measures to be taken, and a schedule of implementation.

B. On September 30, 1983, Chem-Met Services, Inc. received an odor complaint through its answering service.

C. The problem was severe enough that thirteen odor complaints were received from the public by the Wayne County Health Department.

D. Chem-Met Services, Inc. failed to report this incident to the PEAS System as required by Part I, Condition 29A of its operating license.

E. Chem-Met also failed to provide a written explanation of the incident to the Department within 15 days as required by Part I, Condit of its operating license.

V Processing of Waste in Containers

A. MAC R299.6702(2) requires that containers of hazardous waste be clearly marked with the date when short-term storage began.

B. Special Condition 4A, Part II, Page 18 of the facility's opera license requires that waste in containers be processed within 24 hours after acceptance.

C. A DNR inspection on June 27 and 28, 1983 noted that drums were not marked in accordance with R299.6702(2). That deficiency was noted in a letter from Susan Norton (Water Quality Specialist, Detroit Distri Hazardous Waste Division, MDNR) to William Hartman (Vice President, Chem-Met Services, Inc.) dated July 13, 1983. The need for this labell was reaffirmed in a November 8, 1983 letter from Norton to Hartman.

D. Because the container dating requirement in R299.6702 is not being complied with, it is not possible to assess facility compliance with the 24 hour processing requirement of condition 4A. (However, Mr. Bruce Smith informed the inspector that drums were not always proce within 24 hours).

E. MAC R299.6404(d) requires that facilities be operated in a manner that will prevent exposure of humans or the environment to har quantities of hazardous waste or hazardous components of wastes. DNR staff observed during a May 27, 1983 inspection that drums were being emptied by driving over them with a caterpillar tractor. The operato was in an open cab on the tractor with no protection while operating in and near a pool of oil-like liquid. This activity clearly is a v of R299.6404(d),. Workers on-site as well as the public must be pro from this type of exposure.

F. Specific Condition 43, Part II, Page 18, requires the wast to be adequately removed from containers. The mode of operation of emptying drums by crushing them with a caterpillar tractor as obse on May 27, 1983 does not permit the determination of adequate remo to be made.

VI Groundwater Monitoring

A. MAC R299.6404(a) requires that facilities be located, de constructed and operated to prevent groundwater or surface water which causes a violation of the Federal Clean Water Act or Act 2

B. MAC R299.6409(2)(a) requires installation and operation a groundwater monitoring system.

C. Specific Condition 6, Part II, Pages 18 through 20 of the facility's operating license sets forth the facility's specific groundwater monitoring requirements.

D. Specific Condition 6F of the license, part II, page 20 requires that in the event that parameters listed in the operating license are detected in concentrations greater than two standard deviations above established background groundwater quality levels, the Director shall be notified.

E. Specific condition 6H, Part II, Page 20 of the operating license requires that in the event that notification is given to the Director as required in Specific Condition 6F, the company shall:

1. Determine the cause of contamination.

2. Within 21 days submit a plan for corrective action to the Director.

3. Upon approval of the plan, immediately begin its implementation.

F. Samples taken by DNR on August 17, 1983 showed toluene in 2 of 4 monitoring wells. Samples were taken again from all four monitoring wells on the site by DNR staff on September 28, 1983. Samples from the September sampling were split with Chem-Met.

G. Results of analyses of the September samples by both the DNR and Chem-Met Services, Inc. showed toluene in all four wells and 1,1-dichloroethane in one well. Additional sampling and analysis by Chem-Met on October 25, 1983 confirmed the presence of toluene in all four monitoring wells.

H. Background monitoring done by the facility in June through October, 1982 in compliance with Special Condition 6B, Part II, page 19, showed no detectable amount of toluene or 1,1-dichloroethane.

I. To date, Chem-Met Services has not determined the cause of contamination or submitted a plan for corrective action. Therefore, Chem-Met Services has not complied with the requirements of Specific Condition 6H, Part II, Page 20 of the operating license.

VII Trackout

A. MAC R. 299.6405(2) requires that "all disposal facilities shall be designed, constructed and operated so that fugitive emissions of hazardous waste or hazardous waste components are controlled".

B. MAC R299.6404(f) requires facilities to be located, designed, constructed, and operated to prevent violations of the federal Resource Conservation and Recovery Act and regulations promulgated in 40 CFR 260 to 265.

C. 40 CFR 265.31 requires that facilities be maintained and operated to minimize the possibility of any release of hazardous waste or hazardous waste constituents to the air, soil, or surface water which could threaten human health or the environment.

D. During an inspection on September 23, 1983, DNR staff observed trackout of material from the hazardous waste handling area to the parking area and subsequently to Allen Road. This trackout occurs despite the use of the wheel wash.

VIII Use of Hazardous Waste Runoff for Dust Control

A. Runoff from the Chem-Met Services, Inc. waste pile is a regulated hazardous waste. This water is collected in an on-site surface impoundment. On October 6, 1983, Richard Stegen of the Wayne County Health Department observed this water being used as a dust suppressant on interior haul roads.

B. This activity constitutes disposal. Unless this activity is specifically authorized in an operating license, it is a violation of 1979 P.A. 64. The operating license issued to Chem-Met Services, Inc. on June 8, 1982 contains no such authorization.

IX Closure Plan Deficiencies

A. MAC R299.6503(1)(b) requires that an operating license application for an existing hazardous waste treatment facility shall include all information required for a construction permit pursuant to R299.6402.

B. MAC R299.6402 requires in part that applicants for operating licenses comply with R299.6410.

C. MAC R299.6410(1) requires that the owner/operator shall provide a plan for closure of the facility.

D. MAC R299.6410(3) requires that the owner/operator update the closure plan as necessary.

E. The closure plan which is incorporated by reference as a part of the facility's operating license limits storage at the site to 16,000 cubic yards. On December 8, 1983, staff of the DNR estimated that the amount of treated waste material currently being stored on site is approximately 50,000 cubic yards.

F. Closure costs in the current closure plan are based on disposal of the treated product at Wayne Disposal, Inc. at a cost of $14.00 per cubic yard. Staff has reason to believe that this cost is now significantly higher.

G. The current closure plan does not include a cost for removal of soil underlying the waste pile which has become contaminated by hazardous waste treatment, storage and disposal activities. Closure of the on-site storage lagoon has shown soil contamination to be likely.

H. Chem-Met Services, Inc. has violated R299.6410(3) by not providing an updated closure plan which includes these revisions.

X Closure Financial Assurance Instruments Deficiencies

A. On December 30, 1982, Section 41 of the 1979 PA 64 was amended to require all existing hazardous waste treatment, storage and disposal facilities to provide 100 percent funding of their closure/post-closure financial instruments by June 29, 1983. After that date owners/operators of all hazardous waste treatment, storage or disposal facilities were required to fund all closure financial instruments in an amount equal to a reasonable estimate of the cost required to close the facility, based on the level of operations proposed in the operating license application.

B. As of June 29, 1983, Chem-Met Services was required to provide additional funding of $195,353 to meet the 100% funding requirements based on their June 3, 1982 closure cost estimate of $276,000. As of this date, Chem-Met Services has only funded this instrument in the amount of $80,647.

C. General Condition 37, Part I, Page 15 of the operating license requires that the licensee shall:

1. Provide and continuously maintain an instrument of financial assurance approved by the Director to cover the cost of closure at the facility,

2. Provide additional financial assurance when changes to the closure plan or inflation necessitate revisions of the closure cost estimate.

D. On May 9, 1983, Chem-Met Services, Inc. was informed by the Department of Natural Resources of the new closure/post-closure funding requirement described above and was directed to provide evidence by July 15, 1983, that the necessary 100 percent funding of its closure financial assurance instrument had been accomplished.

E. On June 24, 1983, Chem-Met Services, Inc. was informed of deficiencies in a sample insurance policy which it had submitted to the Department to fulfill the 100 percent funding requirement.

F. On July 29, 1983, Chem-Met Services, Inc. re-submitted an insurance policy which still contained deficiencies identified in the June 24, 1983 correspondence.

G. On August 19, 1983, Chem-Met Services, Inc. was informed that failure to provide evidence that proper financial assurance was in place by September 9, 1983 would be cause for the Department of Natural Resources to commence further enforcement action.

H. September 8, 1983, Chem-Met Services, Inc. submitted a Certificate of Insurance to fulfill the 100 percent funding requirement for closure. The policy for which the certificate was issued still contained the deficiencies outlined by the Department in the June 24, 1983, and August 19, 1983 correspondence.

I. Chem-Met Services, Inc. has violated Section 41 of 1979 PA 64, Rule MAC R299.6410(3) and conditions 37a and b of the facility's operating license by failing to provide and maintain 100 percent funding of its closure financial assurance instrument.

XI Operating Log

A. MAC R299.6901(1) requires that the licensee shall keep an operating log at each facility.

B. General Condition 313, Part I, Page 12 of the operating license requires that the licensee must inform the generator in writing that the licensee can accept his waste prior to shipment of the waste. A copy of the written notice must be kept in the operating log.

C. DNR inspection on November 7, 1983 showed that this notice was not recorded in the operating log.

XII Accepting Unauthorized Wastes

A. Specific Condition 2, Part II, Page 17 and Table 1, Page 27 of the operating license limit the hazardous waste types which Chem-Met Services, Inc. can accept for disposal.

B. DNR staff inspection of the licensee's operating log on November 7, 1983 showed that the licensee had accepted waste types D003 (reactive) and U122 (formaldehyde) in violation of their operating license.

XIII Processing of Liquids on Working Pile

A. Page 1, item 3 of the hazardous waste disposal facility operating license issued to Chem-Met Services, Inc. includes application no. 304 as a part of the operating license.

B. General Condition 6, Part I, page 3 of the operating license requires that the licensee must operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to the air, soil and surface water which could threaten human health and the environment.

C. The waste plan in the Chem-Met Services operating license application indicates that nonpumpable acidic wastes and pumpable and nonpumpable basic wastes are to be placed in depressions in the waste pile for immediate treatment.

D. On November 7, 1983, staff of the DNR observed pumpable wastes being emptied from tankers into depressions in the waste pile. DNR staff also observed that tankers were permitted to proceed to the waste pile and off-load before any analysis was performed.

E. This is a violation of Chem-Met's operating license because the licensee has not minimized the possibility of fire, explosion or unplanned release which could threaten human health and the environment because of the off-loading of wastes which have not been sampled and which could be incompatible to depressions in the waste pile.

You are advised that the Department will afford you an informal opportunity to demonstrate compliance with your Hazardous Waste Disposal license, 1979 PA 64, as amended, and the rules promulgated thereunder. You have a right to respond in writing and/or to appear by counsel. If the Department, at this informal hearing, determines that you have not demonstrated compliance, or if the Director determines that a formal proceeding, with testimony taken under oath, is necessary to arrive at the truth of the matter, or if you request that a formal hearing be conducted, the Director will declare this matter a contested case, pursuant to the Administrative Procedures Act of 1969, as amended, and the matter will thereupon be referred to a hearing officer for the conduct of formal proceedings to develop a record upon which record the hearing officer will make findings of fact and arrive at a final decision.

I have scheduled the informal meeting for January 10, 1984 at 1:30 p.m. in conference room A in the Ottawa Street Office Building in Lansing, Michigan. This matter has been assigned to Mr. John Shauver of the Environmental Enforcement Division, (517) 373-3503. Please contact him if you have any questions.

Jack D. Bails, Chief
Environmental Enforcement Div.

Dated: Dec 9 1983

Delbert Rector, Chief
Hazardous Waste Division
Department of Natural Resources
P.O. Box 30028
Lansing, Michigan 48909

Phone: (517) 373-2730

AMBIENT AIR MONITORING REQUIREMENTS

1. The ambient air monitoring program currently operated by the company shall be revised to comply with the MDNR and EPA monitoring requirements. These requirements are summarized in MDNR's "Ambient Air Monitoring Guidelines for Act 64 Facilities." All revisions must be in place by June 1, 1985.

2. On or before May 1, 1985, the company shall submit for review and approval, detailed sample collection and analysis procedures for ambient air monitoring.

3. On or before June 1, 1985, the company shall relocate the samplers to the perimeter of the facility property line. Monitors must be located off company property, unless the company agrees in writing that on-site measurements represent ambient air. Specific monitoring locations will be determined in subsequent meeting with the company.

4. One sampler shall be located on the property occupied by Quantum. Since Quantum employees are not directly involved with hazardous waste management, measurements at this site shall represent ambient air.

5. On or about June 1, 1985, the company shall operate the air samplers on a 3 day sampling schedule for 6 months. At the end of that period, the company may request a relaxation of the monitoring frequency to a 6-day schedule. A reduction in sampling frequency will not be approved if sample collection and analysis procedures have not been followed or if the company has failed a quality assurance audit. The monitoring schedule must coincide with the EPA TSP monitoring schedule.

AMBIENT AIR MONITORING GUIDELINES

FOR

ACT 64 FACILITIES

MARCH 22, 1985

TABLE OF CONTENTS

1.0 INTRODUCTION

Michigan's Hazardous Waste Management Act (Act 64 of 1979) and the administrative rules under the act, closely regulate the disposal of hazardous waste in Michigan. Rule 409 of the administrative rules requires that licensed hazardous waste disposal facilities have an air monitoring program. The following pages indicate the basic requirements for an acceptable monitoring program at a hazardous waste disposal facility. Additional or different requirements may apply on a case-by-case basis.

2.0 PROGRAM IMPLEMENTATION

1. The company shall develop a monitoring plan and submit the plan to the MDNR for approval. The monitoring plan shall include the following information:

   a. Monitoring objective.

   b. List of parameters and associated limits.

   c. Number of samplers.

   d. Location of monitors.

   e. Sampling schedule.

   f. Timeliness of sample analysis.

   g. Data reporting requirements.

   h. Overview of sample collection method - include performance parameters such as sample flow rates and sampling periods.

   i. Overview of sample analysis - include performance parameters such as detection limits and the precision and accuracy of each method.

   j. Target dates for completing each phase of the project.

   k. Identify key personnel.

2. Upon receipt, the MDNR will review the technical merits of the proposed plan. If it is determined that the program has potential to satisfy the monitoring objective, then it will be approved. If not, it will be returned with comments for modification.

3. Once approved, the company or agency can proceed with the development of detailed standard operating procedures and deployment of monitoring equipment. Final approval of both the procedures and the monitoring locations must be given by the MDNR prior to initial sampling.

4. Once in place, the MDNR will periodically review the monitoring program to assure that it is meeting its stated objectives and specifications. If not, corrective action will be required.

3.0 NETWORK DESIGN

3.1 Parameters and Limits

To be determined on a case-by-case basis.

3.2 Methodology

EPA reference methods are not available for non-criteria air pollutants. Therefore, use the currently recommended and most recently developed procedure for sample collection and analysis. All methods must be approved by MDNR prior to initial sampling. For criteria pollutants, use the appropriate EPA reference method.

3.3 Network Size

The number of samplers to be determined on a case-by-case basis.

3.4 Site Selection

3.4.1 Location of Samplers

At least one monitor must be sited to measure the highest predicted concentration. For ground level sources, use representative meteorological data to determine the predominate wind direction. Monitors must be sited downwind along the parameter of the facility property line. They must also be located off company property unless the company agrees in writing than on-site monitoring represents ambient air. For elevated sources, dispersion modeling must be used to determine the maximum impact point.

Background monitoring may also be required. Site the background samplers upwind for the predominant wind direction.

Additional monitors may be required to determine the impact of the source on nearby residents. If receptor monitoring is required, then the monitor will be located in the direction of the nearest human receptor.

3.4.2 Probe Siting Criteria

1. Locate the sampler in an area that has unobstructed airflow, especially from the direction of the source. The distance between the nearest obstruc-

tion and the sampler should not be closer than 2 times the height of the obstruction.

2. Locate the sampler at least 20 meters from trees.

3. Avoid locations where reactive surfaces may cause chemical changes in the air sampled. For particulate measurements, there should be vegetative ground cover or a paved surface.

4. Place the intake probe 3 to 5 meters above ground level.

5. The probe should extend at least 2 meters from the supporting structure. If the probe is located on a building, it must be mounted on the windward side.

3.4.3 Documentation of Sites and Sensor Information

Site and sensor information forms must be completed for each site prior to initial sampling. If the site or sensor information changes, updated forms must be submitted within 30 days of change.

3.5 Monitoring Frequency

At or near the beginning of the program, a period of intensive sampling will be required. During this period, samplers must operate on a 3 day schedule. This period must include the season of greatest predicted impact from the source. At the end of 6 months, the company may request a relaxation of the sampling frequency to a 6 day sampling schedule. A reduction in sampling frequency will not be approved if documented standard operating procedures have not been followed or if the company has failed a quality assurance audit.

Routine sampling will be conducted on a 6 day schedule.

Both sampling schedules must coincide with the EPA TSP monitoring schedule.

3.6 Completeness Objective

To collect at least 85% of the total scheduled samples.

3.7 Meteorological Measurements

Meteorological measurements will be required for most monitoring programs. The measurement system must be installed, operated, and maintained in accordance with Reference 7.

4.0 QUALITY CONTROL REQUIREMENTS FOR SAMPLE COLLECTION

4.1 Sample Collection Procedures

Detailed standard operating procedures must be developed for each sample collection method. These procedures must be approved by the MDNR prior to initial sampling. Include the following elements in each procedure:

1. Overview of collection method.
2. Equipment used.
3. Calibration standards and their traceability.
4. Specifications of sample collection media.
5. Set-up and installation of samplers.
6. Calibration of samplers.
7. Operation of samplers.
8. Quality control checks and their frequency.
9. Control limits for critical variables, such as flow rate and sample time, and corrective actions for out of limit conditions.
10. Preventive maintenance of sampling equipment.
11. Recording and validating data.
12. Documentation of quality control information.

4.2 Calibration Standards

Calibration standards must be traceable to NBS whenever possible. Flow rates must be traceable to an authoritative volume such as a soap bubble flow meter.

5.0 QUALITY CONTROL REQUIREMENTS FOR ANALYTICAL ANALYSIS

Detailed standard operating procedures must be written for each analytical method. These procedures must be approved by the MDNR prior to initial sampling. Include the following elements in each procedure:

1. Principles of analytical technique.
2. Instruments used. Specify instrument settings and detector used where appropriate

3. Extraction and cleanup procedure. Indicate % recovery, including range and standard deviation.

4. Specify performance parameters such as sensitivity, precision and accuracy.

5. Quality control checks (such as blank samples) and their frequency.

6. Calibration of analytical instruments.

7. Detailed description of procedure. Include the following:

   a. Stepwise description of the entire test procedure.

   b. Include specifics of equipment used (e.g., 10 ml syringe, Kuderna Danish column for evaporation, size of glassware used, etc.)

   c. Include potential problems and how they are overcome.

   d. Specify grade (e.g., spectral grade of reagents used.)

   e. Include volumes and weights used.

   f. Show calculations.

   g. Include references.

   h. Show actual chromatograms or spectra where possible.

   i. Include data and documentation obtained during method development.

6.0 DATA ASSESSMENT REQUIREMENTS

6.1 Precision

Procedures for obtaining precision estimates must be approved by the MDNR prior to initial sampling. Use split or duplicate samples for determining precision. All samples taken from the site with greatest predicted impact shall be analyzed in this manner. Sample calculations are shown in Section 2.0.8 of Reference 2.

6.2 Accuracy

Procedures for determining accuracy must be approved by the MDNR prior to initial sampling. Accuracy is determined by analyzing samples with a known concentration of each parameter. The spiked samples shall be prepared using different reagents than those used to calibrate the analytical equipment during routine analysis. Sample calculations are shown in Section 2.0.8 of Reference 2.

6.3 Interlaboratory Audits

Participation in any applicable MDNR or EPA Interlaboratory audit is required.

7.0 DATA REPORTING REQUIREMENTS

The following data must be submitted as indicated.

7.1 Monitoring Data

All monitoring data must be reported to the MDNR within 30 days after the end of the month that the data was collected. Monitoring data must be submitted in the SAROAD format as described in Section 3, Chapter 4, Subject 2 of Reference 4.

7.2 Precision and Accuracy Data

Precision and accuracy results must be reported to the MDNR within 30 days after the end of the quarter that the data was reported.

7.3 EXCURSIONS

All excursions must be reported to the MDNR within 24 hours of analysis. Timeliness of sample analysis is determined on a case-by-case basis.

8.0 PROGRAM REVIEW AND UPDATE

The MDNR will review each program annually to assure that it is meeting its stated objective and specifications. Changes in facility layout or operation may require modifications of the program. Such modifications may also be based upon sampling results.

The facility operator may also request a relaxation of the sampling schedule or the number of samplers. Such requests must be in writing with supporting documentation.

9.0 REFERENCES

1. Quality Assurance Handbook for Air Pollution Measurement Systems, Volume I - Principles. EPA - 600/9-76-005. March 1976. U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory (MD-77), Research Triangle Park, North Carolina 27711.

2. Quality Assurance Handbook for Air Pollution Measurement Systems. Volume II - Ambient Air Specific Methods. EPA - 600/4-77-027a, May 1977. U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory (MD-77), Research Triangle Park, North Carolina 27711.

3. List of Reference and Equivalent Methods. U.S. Environmental Protection Agency. Department E (MD-77), Research Triangle Park, North Carolina 27711.

4. Aeros Manual Series, Volume II: Aeros Users Manual. EPA-450/2-76-029, December 1976. U.S. Environmental Protection Agency, Office of Air and Waste Management, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina 27711.

5. Technical Assistance Document for Sampling and Analysis of Toxic Organic Compounds in Ambient Air. EPA-600/4-83-027, June 1983. U.S. Environmental Protection Agency, Environmental Monitoring Systems Laboratory, Research Triangle Park, North Carolina 27711.

6. Network Design and Site Exposure Criteria for Selected Non-criteria Air Pollutants. EPA-450/4-84-022, September 1984. U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina 27711.

7. Quality Assurance Handbook for Air Pollution Measurement Systems: Volume IV. Meteorological Measurements. EPA 600/4-82-060, February, 1983. U.S. Environmental Protection Agency, Environmental Systems Laboratory, Research Triangle Park, North Carolina, 27711

10.0 BLANK FORMS

1. Site and Sensor Information Forms
2. SAROAD Forms

Date:

Site Information

MASN #: _____ SAROAD #: _____

Station Start Date: _____ Station Stop Date: _____

Address: _____

_____

_____

County: _____ District _____

Owner & Address: _____

_____

_____ Zip _____

Operator & Address: _____

(Our contact) _____

_____ Zip _____

UTM Zone: _____ E: _____ N: _____

Area Type: Center City _____ Suburban _____ Rural _____ Remote _____

Land Use: Industrial _____ Commercial _____ Residential _____

Agricultural _____ Forest _____ Desert _____

Type of Terrain: Smooth _____ Rolling _____ Rough _____

Ground Elevation, MSL(ft.): _____

Streets nearby (names, directions, distance, traffic volumes, type, number of lanes):

_____

_____

_____

_____

Land use - note distance if predominant use changes within 2 miles:

N _____ NE _____

E _____ SE _____

S _____ SW _____

Comments:

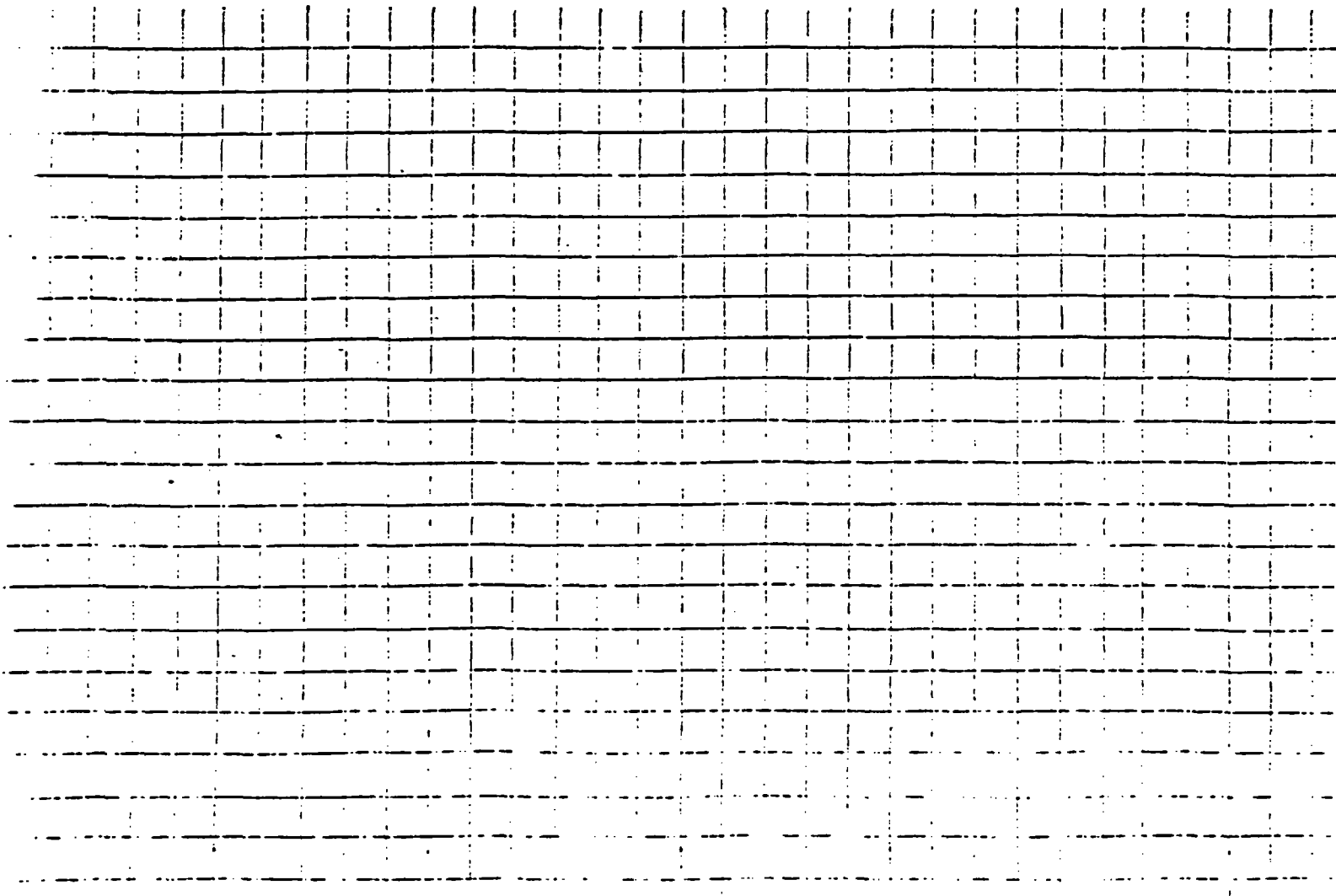
Attachments

Map(s) - topographical map and any aditional maps which would clarify location and/or land use

- include: locations of nearby monitors
major industry locations

Sketch including: distance and direction to nearby buildings, streets, trees, parking lots, etc.
heights of obstructions
ground cover
scale
compass directions

Pictures - 1 showing station and a minimum of 4 showing surrounding area in each major compass direction



Site # _____

Date _____

Sensor Information

Pollutant (or Parameter): _____

Instrument Manufacturer & Model No.: _____

Method: _____ Reference Equivalent No: _____

Operating Schedule: _____

Method of Collection: _____

Method of Analysis: _____

Start Date: _____ Stop Date: _____

Elevation of probe from ground (ft.): _____

Supporting Structure: _____

Elevation of intake from roof (ft.): _____

Distance and direction of intake from walls or other obstructions:

_____

_____

Arc degrees unrestricted air flow: _____

Spatial Scale: _____

Objectives: Maximum concentration _____ Population Exposure _____

Source Impact _____ General Background _____

Type Site (may be more than one): NAMS _____ SLAMS _____ SPM _____

PSI _____ Episode _____ PSD _____

Dominant Influence at Site: Point _____ Area _____ Mobile _____

Date requirements met for installation: _____

siting: _____

quality control: _____

Notes:

Monitor Changes (list instrument information detailed above):

AIR QUALITY DIVISION
AIR QUALITY DATA

TSP
(Name)

Pollutant (Code)	Agency	Project	Time	Year	Method	Units	DP
1 1 1 0 1		0	7		9 1	0 1	0
(2-6)	(7)	(8-9)	(10)	(11-12)	(13-14)	(13-16)	(17)

Note: DP = number of digits to right of decimal

No	STATION NAME	STATION CODE State / Station / Site (18-26)	Sample Date Month Day (27-28) (29-30)	Value (31-34)	Sample Date Month Day (35-36) (37-38)	Value (39-42)	Sample Date Month Day (43-44) (45-46)	Value (47-50)	Sample Date Month Day (51-52) (53-54)	Value (55-58)	Sample Date Month Day (59-60) (61-62)	Value (63-66)